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Selected research studies dealing with linguistics and reading are reviewed under the following headings: (1) claims by linguists, (2) research on phoneme-grapheme correspondences, (3) research comparing linguistic approaches with basal reader approaches, (4) modified alphabets, and (5) syntax studies. It is concluded that the missing dimension in the work done thus far is the linguistic knowledge gained over the last decade. In terms of the topics of current interest to linguists, there is no linguistic approach in reading and definitely no linguistic method. There might be a linguistic perspective which could be applied by teachers to reading instruction. A bibliography is included. (RJ)

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IS THE LINGUISTIC APPROACH AN IMPROVEMENT IN READING INSTRUCTION?

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(Presented at the Thirteenth Annual Convention of the International Reading Association, Boston, Massachusetts, April 27, 1968.)

IS THE LINGUISTIC APPROACH AN IMPROVEMENT IN READING INSTRUCTION?*

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INTRODUCTION

The history of reading instruction is not a very glorious one if one is to believe the recent documentations of that history by Diack (6), Mathews (17), and Chall (3). These writers, or critics if you prefer, show it to be a history filled with research studies which contradict each other, with gimmicks that have come and gone in almost regular cycles, and with controversies over methods. It is not difficult for us to see it as a history in which claims about kinesthetics, tachistoscopes, phonic word attack skills, reading pacers, whole word methods, and bibliotherapy are advanced in one big, buzzing, babbling confusion. And now we see claims about linguistics added to the clamor. Linguistics is in today. Several years ago eye-movement training was in. It's out now I believe. What will we be saying about linguistics ten years hence? Will it be out too and will eye-movement training be back in?

The purpose of this paper is to show just what kind of linguistic knowledge has found its way into reading instruction,

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both in materials and methods. Let me state at the very beginning that the linguistic knowledge which is there is neither what I would call current linguistic knowledge nor is it always sound knowledge, linguistically or pedagogically. In the course of this paper I will try to evaluate both the claims that have been made about the use of linguistics in reading and the experimental evidence that has been produced to date. I will show these claims to be doubtful in some cases and I will also show what experimental evidence there is for the use of linguistics in reading to be as unrevealing here as it is in almost any other area of reading research. I will even go so far as to deny that there is a <u>linguistic</u> method. Yet, I will conclude by showing how linguistic knowledge properly applied cannot help but lead to improvement in reading instruction. However, this improvement can take place only if there is a fairly immediate cessation of the kind of dabbling by the linguist in reading instruction or by the reading expert in linguistics that we have witnessed in recent years. Each must become more serious about the other's problems and difficulties than he is at present. I will try to indicate what I mean by <u>serious</u> during the course of the paper.

LINGUISTICS AND READING TO DATE

A. SOME CLAIMS BY LINGUISTS

Let me begin by stating some of the claims made by linguists and others who have given considerable thought to the teaching

of reading and to the incorporation of linguistic knowledge into that teaching, briefly the claims of Bloomfield, as in Bloomfield and Barnhart's Let's Read (2), Fries in Linguistics and Reading (10), and Lefevre in Linguistics and the Teaching of Reading (14). All three worked within what has become known as the Bloomfieldian or descriptive-structural tradition in linguistics. They are structuralists who believe in describing the spoken rather than the written language, in using such concepts as the phoneme and the morpheme in their analyses and descriptions, and in separating the description of a language into phonological, grammatical and semantic components.

In their writings on the teaching of reading, they stress what appear to them as linguists to be the various important aspects of the teaching of reading. Bloomfield stresses the fundamental regularity of much English spelling in contradistinction to those who stress the chaotic nature of such spelling. He also stresses the need to teach the regular features of spelling systematically, the importance of whole-word perception right from the beginning of reading instruction, and the elimination of picture cues. In addition, Bloomfield emphasizes the relative unimportance of the content of what is read and claims that the child is faced with what is essentially a decoding task. The child already "knows" the content for, after all, he can speak the language. Fries develops some of these principles. He insists that every teacher of reading should distinguish quite clearly among phonics, phonetics, and phonemics, he stresses

the importance of presenting words in contrastive sets, and he advises using only upper case letters to lighten the recognition burden. Fries conceives of reading as the high speed recognition of already known content. For his part, Lefevre's major contribution is that of pointing out the importance of intonation contours and sentence patterns in reading. All three writers meticulously avoid normative judgments, statements about "correcting" children's mistakes, and suggestions that teaching the child to talk is part of the task of teaching him to read; instead they are essentially concerned with the presentation and gradation of the linguistic content of reading materials and with the devising of suitable teaching methods.

Most of what they say about reading cannot be ignored. However, some points they make have perhaps less justification than others, for example Fries' advocacy of the use of minimal pairs and Bloomfield's rejection of pictures. In both cases there is an extrapolation of what is essentially a principle of some use in linguistics into a pedagogical principle. Such an extrapolation must be suspect since methods employed by linguists in linguistic research are very likely to be quite different from those employed by teachers in teaching.

It could be claimed that most of the research carried out to prove or disprove the linguistic method is work which accepts the views of such writers as Bloomfield, Fries and Lefevre as comprising such a method and questions neither the validity

of the linguistic theories which these views reflect nor the argument that a good technique to use in linguistic analysis or linguistic presentation is therefore a good technique for reading instruction. Let us look then at what research evidence there is for the linguistic method.

B. RESEARCH ON PHONEME-GRAPHEME CORRESPONDENCES

It would be true to say that what has become known as the linguistic method of teaching reading is a very narrow method indeed if one examines the texts which are said to make use of, or give a bow towards, the method and if one reads the research studies produced to date. In essence, the linguistic method is little more than the presentation of regular phoneme-grapheme, or sound-spelling, relationships in beginning reading texts, a kind of phonics with a good, much needed, dose of linguistic common sense added. The materials developed by the followers of Bloomfield and Fries reflect this concern and there is virtually no indication in the materials that the possible linguistic contribution to reading involves anything more than the systematic introduction of the regularities and irregularities of English spelling. There is, in fact, scarcely more than an occasional passing reference to any other than this one point that linguists have made about English.

What does the research based on the use of such materials reveal? First of all, let us dismiss as valid research the anecdotal evidence of papers such as the one by Wilson and Lindsay (29) with its account of the use of the Bloomfield

materials for remedial work with thirteen seventh graders reading at or below second grade level, or the "house organ" promotional studies. Let us insist at least on fairly objective studies, preferably involving non-remedial readers in replicable designs. Several studies become worthy of mention. Sister Mary Louis Wohleber (30) compared the use of a set of Bloomfield's materials and the use of a set of basal materials with over 200 matched pairs for three years in classes moving from first to third grade and reported significant differences favoring the Bloomfield materials in all three grades. Sister Mary Fidelia (9) compared the Bloomfield approach with a phonics approach in first grade and found no significant differences in performance at the end of a year. Davis (5) used modified Bloomfield materials to supplement a basal set of materials and compared this treatment with the use of basal materials alone in four groups of 23 first graders for one year. He found in favor of the combination, and his replication of the study with twelve groups confirmed his earlier results. Sheldon and Lashinger (23), in a study using 21 randomly assigned first grade classes over a one year period, compared basal readers, modified linguistic materials, and linguistic readers, but found scarcely any significant differences at all. An examination of all this evidence leads me to the conclusion that it does not add up to very much in favor of a linguistic method. Let me add that it is hardly the kind of evidence that is likely to make the publishers of non-linguistic materials want to get onto the linguistic bandwagon without delay.

There are, however, two better studies than the studies just mentioned, one by Schneyer (24) and the other by Dolan (7). These studies are much better documented and are on a much larger scale than the others. They are also very interesting because the linguistic method does not show up very well in either of them either. More important still, the studies also show, on the one hand, how narrow that method is and, on the other hand, how almost anything can be said to be a linguistic method if one is bold enough to make that claim.

In Schneyer's research 24 first grade classes were used with twelve classes in each of two treatment groups. One treatment group used an experimental edition of the Fries Merrill Linguistic Readers followed by the McKee Reading for Meaning Series while the other treatment group used the Robinson and Artley The New Basic Readers. Each treatment group was subdivided into three ability levels with four classes at each ability level. The classes, the teachers, and the treatments were all randomly assigned. The experiment was continued into the second grade with the loss of two classes, one from each treatment group. Here is Schneyer's conclusion at the end of the testing at the end of the second grade following the giving of a battery of tests to all pupils and to random samples of pupils:

> At the end of the second year of this three-year investigation, the major conclusion is that when the two treatment groups are considered as a whole neither of the two reading approaches

> produced significantly higher spelling or reading achievement that was consistent at all ability levels. While the basal reader treatment group obtained significantly higher total mean scores on four out of fourteen criterion variables, there were no significant differences between total treatment means for the remaining ten criteria. Three of the significant differences were on the Stanford Test given to all pupils in the study (subtests for Paragraph Meaning, Word Study Skills, and Spelling). The remaining criterion on which there was a significant difference between total means was the Accuracy score on the Gilmore Oral Reading Test that was obtained from the subsamples from each of the treatment groups. (p. 718)

The conclusion seems to be that the linguistic method is no better and no worse than the other method. Schnayer does report considerable interaction between treatment and ability level, so that with particular subgroups one treatment, not always the same one, is better than the other. However, what is abundantly clear from the study as a whole is the lack of any clearly significant superiority of one treatment over the other. In fact, the weight of the non-significant evidence actually favors the basal treatment not the linguistic treatment.

In Sister Dolan's study just over 400 fourth grade students in Detroit were matched with the same number of students in Dubuque for intelligence, sex, age and socio-economic status in an attempt to evaluate the beginning reading programs of the two cities. Here is Sister Dolan's characterization of the differences between the programs in the two cities:

> ....it can be stated that the reading programs of the Dubuque and the Detroit systems differ radically in their basic concepts of reading in the initial stages. Dubuque schools emphasize the aspect of meaning from

> the first days of instruction. Word perception skills are built from a basic, meaningful sight vocabulary. Detroit schools assume with linguists that early mastery of the mechanics of word recognition is essential if the child is to develop the art of reading. It is only after he has learned how to get sounds from the printed page that the child can understand the meaning of these sounds. (p.52)

The Detroit children had obviously been taught by the linguistic method so formed the experimental group. I need hardly add that Sister Dolan's description of that method makes it sound more like rather poor phonics than good linguistics. Her conclusion is resoundingly in favor of the Detroit group:

> Although both samples performed above the national norms on all reading tests, the boys and girls of the experimental group recognized words in isolation more readily, used context with greater facility, had fewer orientation problems, possessed greater ability to analyze words visually, and had greater phonetic knowledge than boys and girls taught with the control method. There was no significant difference between the two samples in their ability to synthesize words.
>
> The boys and girls in the experimental group read faster and more accurately, had larger vocabularies, comprehended better, and were more able to retain factual information than the boys and girls in the control group. However, when the more complex comprehension abilities of organization and appreciation were examined, no significant differences were found between the two groups. (p. 63)

However, in spite of all this evidence, Sister Dolan cannot quite bring herself to say that it is the method which is to be given the credit, which is perhaps just as well, for, if this is the linguistic method of teaching reading, it makes me shudder as a linguist. Even Barnhart himself (1) does not want to consider this test a fair one and says so in a review of Sister Dolan's report.

C. MODIFIED ALPHABETS

In discussing the linguistic method and its effectiveness, I would be remiss if I did not refer to modified alphabets since they are obviously linguistic in nature. Such a modification as Unifon, as described by Malone (15), deserves few words indeed. Unifon is based on a poor understanding of English phonology and on the absurd pedagogical principle that you should make a difficult task more difficult by denying a child the use of anything he might already have mastered of English orthography when he comes to school in favor of treating him like one of those automatic scanning devices that banks use for "reading" checks.

In marked contrast to Unifon, the Initial Teaching Alphabet is an interesting modification of English orthographic patterns. It meets some of Bloomfield's and Fries' objections, it is based on a recognition of certain perceptual characteristics exhibited by successful readers, it is "method-free" in that it is usable with any kind of teaching method, and it has its enthusiastic band of propagandizers. Linguistically, it is sound in some places, completely ad hoc in others. For example, you need a manual to be able to write in i/t/a. If it were truly phonemic, there would be no need to have such a manual.

But what about the research evidence for i/t/a? Do we accept such evidence as Mazurkiewicz's claim about its success in the description of the "phasing-in" of i/t/a in an experiment filled with uncontrolled variables (18) and also in a more recent

article (19)? Or do we accept Fry's evidence (11) from a study employing a diacritical marking system, i/t/a, and a basal reading series in 21 first grade rooms, which led him to conclude that at the end of a year there was little or no real difference among the three groups? Fry's most recent conclusion (12) is that:

> The weight of research seems to be leaning towards the conclusion that there is very little difference between the reading abilities of children taught in TO or i/t/a. (p. 553)

Like so much of the evidence in reading, the evidence for and against i/t/a tends to be presented by a partisan of one group or the other. Southgate's conclusion (25), following a review of the research, summarizes my impression too that there is too much Hawthorne effect present in the studies because of the "promotion" being given to i/t/a, and even Downing himself (8) has acknowledged the validity of some of Southgate's criticisms and answered only a few.

D. SYNTAX STUDIES

In spite of Lefevre's insistence on the importance of syntactic and intonational patterns in reading, only two good studies, both by Ruddell (21, 22), seem to exist on this aspect of the use of linguistics in reading instruction. In the first of these studies, Ruddell devised six reading passages of 254 words each to investigate the following two hypotheses:

> 1. The degree of comprehension with which written passages are read is a function of the similarity of the written patterns of language structure to oral patterns of language structure used by children.

> 2. The comprehension scores on reading passages that utilize high frequency patterns of oral language structure will be significantly greater than the comprehension scores on reading passages that utilize low frequency patterns of oral language structure. (p. 404)

His study was conducted in the fourth grade so he based his selection of patterns on descriptions of the language of fourth graders and controlled vocabulary differences, sentence lengths, and content. Using the "cloze" procedure and deleting every fifth word, he analyzed the data gathered from 131 subjects and found significant support for both hypotheses. However, since he also found intelligence, father's occupational status, parental educational level, and mental and chronological age related significantly to comprehension of the materials he devised, obviously there are many other important variables in addition to linguistic ones. In fact, among those differences he took into account only sex differences were not significant!

In the more recent report, Ruddell describes his progress in a longitudinal study in which he is trying to determine how the use of greater or lesser amounts of phoneme-grapheme correspondences and controlled sentence patterns affects reading ability in 24 first grade classrooms. So far he has found evidence, some significant and some not, for his hypotheses that these variables are important.

These studies by Ruddell are important studies but again they touch on only certain linguistic matters and they hardly touch at all on those matters that concern current linguistic

researchers. In fact, very few people in reading seem to know anything about what is happening in linguistics today.

E. CONCLUSION

All the studies reported here are inconclusive, possibly for three main reasons. The first is that the view of linguistics incorporated into materials for the so-called linguistic method is not a very insightful one. The second is that the methods used by linguists are not methods for teaching reading but methods for doing linguistics. The third is that teachers using so-called linguistic materials almost certainly use them in the same old ways and make no more than a token gesture or two towards linguistics. And when they do make such a gesture, it is towards a linguistics which is not current linguistics.

THE MISSING DIMENSION - CURRENT LINGUISTICS

There is something very important missing from the work that has been done so far in applying linguistic knowledge to reading instruction and that missing element is the linguistic knowledge acquired over the last decade. The kind of linguistics which is partially introduced into some versions of the linguistic method is Bloomfieldian linguistics; however, beginning with the publication of Noam Chomsky's Syntactic Structures in 1957 (4), linguistics has undergone a revolution. I will not say that Bloomfieldian linguistics is dead or even moribund, but, to use a current idiom, it is not where the action is. Let me point out

a few important ideas in Chomskyan linguistics because I believe they are important in reading.

First of all, generative-transformational grammarians, to give the followers of Chomsky a name, make a distinction between the skills and competence a person must have to behave linguistically and his actual observed linguistic behavior. The first interests them much more than the second. Then, they try to account for the first in a highly formalized way by writing precise rules. Generative-transformationalists are also unwilling to separate phonology from grammar as the Bloomfieldians tried to and they most certainly do want to include the study of meaning in their study of language, not exclude it. There are undoubtedly some direct consequences for reading instruction in such concerns as these but generative-transformationalists have been reluctant to hypothesize what these might be. Let me be so bold, however, as to venture a few.

First, it is impossible to separate grammar and phonology or grammar and spelling because they are closely interrelated. It is not necessary to postulate a phonemic level of linguistic organization in the Bloomfield or Fries sense so that over-insistence on phoneme-grapheme correspondences is likely to be misplaced. Linguistic behavior itself is rule governed but these rules are extremely abstract and subconscious so they must be deduced rather than induced. In order to study the process of comprehension it is necessary to know what has to be comprehended, that is the actual linguistic content of any particular

sentence, to know what rule-governed processes enter into comprehension, that is how that content is processed. Even mistakes should be thought of as applications of the wrong rules, as evidence of faulty processing, rather than as instances of random behavior.

There is also a growing body of experimental evidence to support such claims as these. Some recent papers and summaries may be mentioned. In an earlier paper (26), I pointed out some changes in emphasis that current linguistics would demand of investigations in reading. Goodman (13) has made a most interesting beginning on studies of what he calls "miscues" in reading and Weaver (27) and Weaver and Kingston (28) have marshalled some very interesting evidence to suggest that what is currently happening in linguistics will lead to a complete revolution in our thinking about the applications of linguistics to reading. Weaver suggests that:

> ....there is an apparent contradiction in the attitude of the teacher toward the word as a unit of language and that of the linguist and certain psychologists who base their experiments on the logical analyses of the linguists. (p. 267)

I might add that the three linguistic units which elementary school teachers apparently find easiest to talk about and even to define -- syllable, word,and sentence -- are almost the hardest for a linguist to define. In this connection Weaver and Kingston conclude by saying that "the linguist is talking about things which the teacher of reading needs to know." (p. 242).

Recently reported studies, such as those by Marks (16) and Mehler and Carey (20), offer further confirmation of claims that I made earlier, Marks of statements about processing and Mehler and Carey of statements about the importance of deep structure.

CONCLUSION

If it is such topics as these which currently interest linguists, then there is no linguistic approach in reading at the moment and very definitely no linguistic method. I doubt if there can be a linguistic method or even a linguistic approach. There might, however, be a linguistic perspective, some kind of basic knowledge which can be applied to reading instruction. Obviously, too, there are methods and techniques which teachers would not employ in teaching reading if they had more linguistic knowledge, and knowing what not to do and what to avoid seems to me to be an essential prerequisite to knowing what to do.

In conclusion, I would suggest that what we know as the linguistic method is neither very good linguistics nor very good method and what success there has been has derived as much from Hawthorne effects as from the linguistic insights found in the new materials. However, reading is crying out for better content, for phonics methods still continue to be based on quite inadequate notions about language and look-and-say methods and other methods which stress meaning continue to be based on vague notions of syntax and semantics. What teachers of reading need is an awareness of current linguistic ideas and a greater familiarity with

the linguistic content of reading. Reading is basically a language process. Linguistics is the study of a language. It seems obvious that any adequate reading method be based on the best knowledge we have of language and linguistics. To that extent linguistics will be invaluable to us in reading. But I seriously doubt that the use of linguistic knowledge in reading instruction will ever add up to a linguistic method. And, most certainly, it does not at the moment.

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